Index of Articles: 1991-1992

Two years of RF Design Articles, Organized by Subject

Cover Story

New CAE Software Brings Design Automation to the RF Engineer, Dr. Thomas A. Reeder, February 1991, p. 77.

Noise Sources Provide Variable Bandwidth and Center Frequency, Bent Hessen-Schmidt, March 1991, p. 42.

Tunable Active Filter Reaches 25 MHz, Bill Kulas, June 1991, p. 41.

The Winners! Results of the 1991 RF Design and Software Contests, July 1991, p. 26.

New RF Network Analyzer Offers Speed, Accuracy, and Low Price, Jim Curran, August 1991, p. 41.

Low-Noise Amplifier with "Linear-dB" Gain-Control Simplifies AGC Systems, Barrie Gilbert, Eberhard Brunner and Bob Clark, September 1991, p. 43.

Miniature Precision Bandpass Filters Solve IF Design Problems, William J. Domino and Robert A. Johnson, October 1991, p. 49.

Finding New Homes for RF Technology, Gary Simonyan, November 1991, p. 57.

Software Family Integrates Synthesis and Simulation, Randall W. Rhea, December 1991, p. 37.

Designing an Amplifier for 500 Watts, 20 to 500 MHz: The Inside Story, Richard Sheloff, January 1992, p. 49.

Locating Power Line RF Interference, James Harris, February 1992, p. 42.

New DDS Keeps Things Simple, James Madsen, March 1992, p. 77.

Versatile UHF Data Telemetry Transmitter, Harry Swanson, April 1992, p. 66.

New Portable Spectrum Analyzers Are Keys to Innovative Testing, Mary Jane Pahls, May 1992, p. 59.

Micro Miniature RF Switch Cuts Size, Weight and Power, James A. Lapke, June 1992, p. 52.

RF Design Awards Winners Set Standards for Creativity, Gary A. Breed, July, 1992, p. 25.

New EMI/EMC Test Capabilities Lead the Way to Compliance, August 1992, p. 34.

New CAE Software for Designs That Work the First Time, Daren B. McClearnon, September 1992, p. 43.

Vehicle Locator Uses Spread-Spectrum Technology, Bill Xenakis and Allan Evans, October 1992, p. 58.

Single Chip Digital Down Converter Simplifies RF DSP Applications, David B. Chester and Geoff Phillips, November 1992, p. 39.

New CAE Software Brings Advanced Circuit Simulation to PCs Under Microsoft Windows, K. Cobler, S. Hamilton, R. Litzlbeck and T. Reeder, December 1992, p. 39.

Industry Insight

Mobile Radio: On a Fast Track, Liane Pomfret and Charles Howshar, January 1991, p. 27.

The Rental Market - Its Success Reflects Hard Times, Liane Pomfret, February 1991, p. 27.

SMT — The Footprint of the Future, Liane Pomfret, March 1991, p. 24.

RF Technology in Broadcasting and CATV, Gary A. Breed, April 1991, p. 24.

HDTV: The World is Waiting, Gary A. Breed, May 1991, p. 24.

Imbedded Intelligence Adds Power to RF Products, Gary A. Breed, June 1991, p. 25.

Contract Services in the RF Industry, Liane G. Pomfret, July 1991, p. 23.

Engineering Education: Where Do They Learn About RF?, Gary A. Breed, August 1991, p. 28.

Science and Medicine Rely on RF Technology, Gary A. Breed, September 1991, p. 26.

EMI/RFI Control Grows in Importance, Gary A. Breed, October 1991, p. 24.

Courting the Consumer Market, Gary A. Breed, November 1991, p. 28.

Cellular Radio Drives the RF Market, Gary A. Breed, December 1991, p. 25.

RF Designers Discover ASICs, Gary A. Breed, January 1992, p. 26.

Space Applications — Grand Ideas and Tight Budgets, Gary A. Breed, February 1992, p. 24.

Test Equipment Makers Deliver Cost, Precision and Power, Gary A. Breed, March 1992, p. 27.

Broadcast Applications Drive RF and Video Technology, Gary A. Breed, April 1992, p. 22.

The RF Job Market: How to Compete, Gary A. Breed, May 1992, p. 24.

Digital Techniques Help Achieve RF Design Goals, Gary A. Breed, June 1992, p. 24.

Larger Market Shapes RF Manufacturing Methods, Andy Kellett, July 1992, p. 22.

Wireless Data Communications Try To Fit In, Andy Kellett, August 1992, p. 24.

RF Oscillators and Synthesizers Perform on Demand, Andy Kellett, September 1992, p. 30.

A Look at Exotic RF Technologies, Andy Kellett, October 1992, p. 28.

The Mobile Communications Market is in High Gear, Gary A. Breed, November 1992, p. 24.

RF Still Relies on Passive Components, Andy Kellett, December 1992, p. 20.

Product Report

EMC Test Laboratories: Gearing Up for a Busy Future, Charles Howshar and Liane G. Pomfret, January 1991, p. 71.

Antenna Products Follow The Action in Communications, Gary A. Breed, February 1991, p. 75.

Mixers Remain a Central Product for RF Applications, Gary A. Breed, March 1991, p. 56.

A Stable Future for the Oscillator Market, Liane G. Pomfret, April 1991, p. 79.

A Clear Signal for RF Filters, Liane G. Pomfret, May 1991, p. 77.

Capacitors and Resistors — Niche Markets Carry the Load, Liane G. Pomfret, June 1991, p. 77.

RF Transistors — Staying on Top of Technology, Gary A. Breed, July 1991, p. 61.

Reliable Markets for Switches and Relays, Liane G. Pomfret, August 1991, p. 69.

The Maturing of High Performance Software, Liane G. Pomfret, September 1991, p. 80.

Diversity Drives Signal Processing and Control Components, Liane G. Pomfret, October 1991, p. 75.

Spectrum Analyzers Have Cautious Customers, Liane G. Pomfret, November 1991, p. 124.

Cables and Connectors — An Industry Barometer, Liane G. Pomfret, December 1991, p. 47.

RF Distributors — Filling the Gap, Liane G. Pomfret, January 1992, p. 78.

GaAs MMICs Buck the Trend, Liane G. Pomfret, February 1992, p. 78.

RF Short Courses — Something For Everyone, Liane G. Pomfret, March 1992, p. 120.

RF Signal Generators Go Digital, Liane G. Pomfret, April 1992, p. 96.

Growing Demand for EMC Control, Liane G. Pomfret, May 1992, p. 88.

High Power Components — An Eye Towards the Future, Liane G. Pomfret, June 1992, p. 86.

Packaging Technology — Visions of Things to Come, Liane G. Pomfret, July 1992, p. 72.

More Choices for Boards and Substrates, Liane G. Pomfret, August 1992, p. 63.

Resistive Products — Custom is Where It's At, Liane G. Pomfret, September 1992, p. 130.

Customers Define Power Amplifier Performance, Liane G. Pomfret, October 1992, p. 85.

Ferrites and Iron Powders, Andy Kellett, November 1992, p. 70.

The Status of Military and Space Products, Gary A. Breed, December 1992, p. 70.

EMC Corner

RFI Measurements Using a Harmonic Comb Generator, Ken Wyatt, January 1991, p. 53.

Reduced Bandwidth FM Communications, Mark A. Kolber, February 1991, p. 90.

EMI Signal Analysis, Roger Southwick, March 1991, p. 57.

Communications Range and Reliability of Part 15 Devices, Bernard Kasmir, April 1991, p. 65.

Surge and Transient Considerations, Gary A. Breed, May 1991, p. 56.

EMC Design Techniques for Printed Circuit

Boards, Bernard Cooperstein, June 1991, p. 53.
1992 European EMC Requirements for Susceptibility, Gary A. Breed, July 1991, p. 51.
A Technique to Determine the Effect of a Lightning Strike to a Shielded Cable, Mike Frisoni, August 1991, p. 54.
Near Field Coupling Between Signal Lines, Vincent W. Greb, September 1991, p. 65.
Using Diversity to Improve Performance of Part 15 Devices, Bernard Kasmir, October 1991, p. 64.
A Guide to Coaxial Cable Shield Performance, Robert D. Perelman and Leonard J. Visser, November 1991, p. 81.

Amplifier Design

VSWR Protection of Solid State RF Power Amplifiers, H.O. Granberg, February 1991, p. 106.
SWOP Amps Simplify RF Signal Processing, Tom Anderson, March 1991, p. 26.
Multi-Stage Amplifier Bandwidths, Marlin Greer, March 1991, p. 34.
Biasing Solid State Amplifiers to Linear Operation, H.O. Granberg, April 1991, p. 72.
UHF Power Transistors for Use in Military Electronics Systems, David Hughes, June 1991, p. 68.
A Vertical Mounting Construction Technique, Fulvio Perri, November 1991, p. 109.
Platinum Clad Wire Improves Power Tube Performance, Edward F. Kelly, December 1991, p. 27.
Design of Low Noise, Wide Dynamic Range, GaAs Optical Preamps, Robert Bayruns, Timothy Laverick, Norman Scheinberg and Daniel Stofman, February 1992, p. 32.
A Program for RF Amplifier Design, Thomas H. Stanford, March 1992, p. 110.
DEVCALC — An RF Amplifier Design Aid, Don Miller, July 1992, p. 39.
A Quasi-Complimentary Class-D HF Power Amplifier, Frederick H. Raab and Daniel J. Rupp, September 1992, p. 103.

Antennas and Propagation

A Channel Sounder for Indoor Communication Systems, Fernando Casadevall and Xavier Barba, May 1991, p. 26.
Radial Ground Screen Design for a Vertical Monopole, Michael A. Rupar, January 1992, p. 29.
HF Miniloop Antennas, Pradeep Wahi, January 1992, p. 73.
A Field Expedient Broad Band HF Antenna, Bernard Feigenbaum, March 1992, p. 135.

Book Reviews

Phase-Locked Loop Circuit Design, Dan H. Wolaver, Prentice Hall; November 1991, p. 78.
Analog Electronic Circuits, Robert B. Northrop, Addison-Wesley; November 1991, p. 78.
The ARRL Antenna Book, 16th Edition, American Radio Relay League; November 1991, p. 78.
Microwave Handbook, Volume 2, Construction and Testing, Edited by M.W. Dixon, Radio Society of Great Britain, November 1991, p. 78.
Transmission Line Transformers, 2nd Edition, Jerry Sevick, American Radio Relay League, September 1992, p. 69.
Spectrum and Network Measurements, Robert A. Witte, Prentice-Hall, September 1992, p. 70.

Circuit Analysis

Nonlinear Model Verification for a Medium Power Bipolar Transistor, Lynne Olsen and Brian M. Kirk, March 1992, p. 41.
QSPLOT Displays S-Parameter Data, David Lovelace, March 1992, p. 69.
Statistical Design Improves Reliability and Manufacturing Yields of RF Circuits, Keith Cobler, April 1992, p. 24.
Avoid Killer Avalanches (and h_{FE} degradation), Don C. Schultz, June 1992, p. 35.
RF Design — A Suite of RF Problem Solvers, Herman A. Kruse, August 1992, p. 40.

Components

The Effects of Package Capacitance on the Capacitance vs. Voltage Characteristic of a Tuning Varactor, Richard A. Cory, 1991/1992 Directory, p. 107.
Improved Mica RF Capacitors, Laird Macomber, 1991/1992 Directory, p. 110.
RF Coils for Magnetic Resonance Imaging, Mehrdad Medizadeh, October 1991, p. 29.
Add Negative Capacitors to Your Component Repertoire, Gary Thomas, 1992/1993 Directory, p. 96.
A Program for Winding RF Coils, David M. Raley, January 1992, p. 79.
Attenuator Basics, Gary A. Breed, February 1992, p. 77.
An Introduction to Iron Powder and Ferrite Cores, Gary A. Breed, March 1992, p. 121.
Detector Diode Types and Specifications, Gary A. Breed, May 1992, p. 76.
RF Transistor Specifications, Gary A. Breed, June 1992, p. 63.

Filter Design

A Distributed Resonant Circuit with Improved Filtering Properties, Stanislaw Rosloniec, January 1991, p. 32
Electronically Tunable Active Filters, Yue Xu, January 1991, p. 40.
Swept Spectrum Bandpass Filter, Roy H. Propst, March 1991, p. 65.
Using SAW Double-Mode Resonators for First IF in Cellular Radios, Sean Broderick, March 1991, p. 71.
Crystal/Transformer Networks for Filtering, Gerald Maliszewski, June 1991, p. 59.
A Comprehensive Filter Design Program, Michael Ellis, July 1991, p. 31.
VHF Active Filters, Eugene Mayle, August 1991, p. 58.
Very Wide Band Crystal Bandpass Filters, William B. Lurie, September 1991, p. 29.
A Circuit Analysis Program for Filters, Jack Porter, September 1991, p. 70.
Crystal Filters Without Inductors, William Lurie, May 1992, p. 41.
FilDes: A Filter Design System for the RF Engineer, Robert Lombardi, June 1992, p. 71. Errata, August 1992, p. 10.
The Elliptic Bandpass LC Filter, William Sabin, June 1992, p. 82.
Program Designs Active Elliptic Filters, Jack Porter, September 1992, p. 96.
A Program for the Design of Coupled Resonator Bandpass Filters, John G. Freed, September 1992, p. 120.
Double-Tuned Circuits, Andrzej B. Przedpelski, November 1992, p. 52.
Narrow Bandwidth Elliptic Filters With Low Parts Spread, Albert J. Klappenberger, December 1992, p. 25.
An Adjustable Q Bandpass Filter, J. Alvin Connelly and Jeff Hall, December 1992, p. 31.

Frequency Synthesis

Sampling Delay — Is It Real?, William Egan, February 1991, p. 114.
Parasitic Positive Frequency Acquisition in a PLL, Jonathon Y.C. Cheah, April 1991, p. 69.
Frequency Modulation in a Phase Lock Loop by Control of the Phase Inside the Loop, Scott Grimmett, June 1991, p. 31.
Design and Optimization of Frequency Modulated Phase Locked Loops, Farron L. Dacus, March 1992, p. 114.
The PLL Dead Zone and How to Avoid It, Allen Hill and Jim Surber, March 1992, p. 131
HF and VHF Basics Using Frequency Synthesis, David Babin and Mark Clark, May 1992, p. 46.
Infinite Resolution, Single Loop Frequency Synthesizer, N.W. Heckt, August 1992, p. 58.

High Speed Analog and Digital Circuits

Practical Performance Prediction Techniques for Spectrally Efficient Digital Systems, Dr. Andy Kucar and Dr. Kamilio Feher, February 1991, p. 58.
High Speed IC Applications Circuits, Gary A. Breed, February 1992, p. 27.
A 1 GHz Prescalar Circuit, Ray Robertson, March 1992, p. 109.
Engineering Considerations for Selection of Analog ASICs, Carlos Garcia, March 1992, p. 139.
Key Issues in High Frequency ASIC Design, Carlos Garcia and Bob Webb, July 1992, p. 60.
Understanding Timing Recovery and Jitter, Kenneth J. Bures, October 1992, p. 42.
Understanding Timing Recovery and Jitter in Digital Transmission Systems (Part 2), Kenneth J. Bures, November 1992, p. 27.

Miscellaneous Articles

A Plotter Subroutine for BASIC Programs, Bert K. Erickson, January 1991, p. 70.
New Products RF Expo West, February 1991, p. 117.
A Handy Basic Program for High Resolution Plots, Piotr Lochowicz, June 1991, p. 75.
High Resolution Plotting Routines for BASIC and APL, Douglas B. Miron, September 1991, p. 77.
RF Calculation Programs for DOS, Jouni Verronen, October 1991, p. 68.
RF Expo East Technical Program Covers Current RF Applications, October 1991, p. 70.

Finding New Homes for RF Technology, Gary Simonyan, November 1991, p. 57.
New Products at RF Expo East, November 1991, p. 91.
RF Expo West Features a Comprehensive Technical Program, February 1992, p. 70.
New Products at RF Expo West, March 1992, p. 125.
Construction of a Low-Cost Shielded Room, July 1992, p. 55.
Radio Frequency Interference from Non-Licensed Devices, Robert D. Weller, P.E., August 1992, p. 27.
RF Expo East Features Timely Technical Papers and Courses, September 1992, p. 113.
New Products at RF Expo East, September 1992, p. 127.

Mixers, Multipliers and Dividers

High Performance Active Double Balanced Mixer, Bruce Hubbard, January 1992, p. 63.
An Active Frequency Multiplier, Jonathan Bird, March 1992, p. 128.
QMIX — Mixer Analysis Program, Kevin McClaning, May 1992, p. 78.
An Ultra-Low Distortion HF Switched FET Mixer, Eric Kushnick, September 1992, p. 87.
SPURS Calculates Mixer Direct and Intermodulation Products, Kirt Blattenberger, November 1992, p. 58.

Modulation/Demodulation

Designing a Direct Sequence Spread Spectrum Secure Communication System, Soo Kwan Eo, Chingwo Ma, Incheol Jang, April 1991, p. 31.
IQ Sampling Yields Flexible Demodulators, Thomas P. Hack, April 1991, p. 40.
A Simple Clock and PSK Carrier Recovery Circuit, Francois Methot, May 1991, p. 58.
Design of Quadrature Detectors, Edward A. Richley, May 1991, p. 68.
A Single IF, Antilogarithmic, AM/FM Detector/IF Strip, John C. Roberts, September 1991, p. 74.
An Improved Tau-Dither Technique for Spread Spectrum Code Tracking, Harry Brown, December 1991, p. 49.
A Simple Algebraic and Analogical Approach to a Scrambler/Descrambler, Jaouhar Mouine, April 1992, p. 45.
A Small, Low Cost BPSK Demodulator, David M. Benzel, April 1992, p. 91.
Noise Cancellation in RF Detectors, George Kassabian, June 1992, p. 67.
High Dynamic Range AM Detector, James Raiser, June 1992, p. 69.
A Simple, Balanced, Broadband Frequency Discriminator, Karl Thorup, July 1992, p. 63.

Oscillator Design

A Linear Driftless VCO, Luis Cupido, January 1991, p. 61.
VHF and UHF Crystal Oscillators, Andrzej B. Przedpelski, May 1991, p. 61.
Overtone Crystal Oscillators, Andrzej B. Przedpelski, September 1991, p. 34.
Analysis of Phase Noise in Oscillators, Jonathon Y.C. Cheah, November 1991, p. 99.
A Tutorial on Crystal Specifications and Pullability, C.W. Richards, 1991/1992 Directory, p. 104.
Taking the Mystery Out of Crystal Oscillator Design, Andrzej B. Przedpelski, 1992/1993 Directory, p. 103.
A VCO Tuning Range Calculation Program, Marshall H. Holliman, January 1992, p. 67.
A Wide Range Oscillator, Wayne Ryder, February 1992, p. 69.
A Low Frequency Crystal Controlled Oscillator, Ramon Patron, May 1992, p. 80.
Introduction to Phase Noise, Constantine Fantanas, August 1992, p. 50.
Basic Crystal Oscillator Design Considerations, Craig Taylor and David Kenny, October 1992, p. 75.

Phase Shifters/Matching Networks

A Quick Microstrip Matching Program, Toshihiko Takamizawa, February 1992, p. 59.
An Exact Method for Impedance Matching With Short Transmission Lines, Douglas B. Miron, March 1992, p. 28.
The Smith Chart and its Usage in RF Design, Neal Silence, April 1992, p. 85.

RF Systems

User Friendly Error Curves for Digital Radios, Glen A. Myers, April 1992, p. 39.
Noise Parameter Calculations on the Personal Computer, Malcolm Mayercik, June 1992, p. 29. Errata, October 1992, p. 14.
NAVSTAR Global Positioning System, Edward Troy, June 1992, p. 77.
ECM Effectiveness Analysis Using a Graphical Threat Footprint, Marvin Kefer, August 1991, p. 31.
A Program for Calculating the Noise Figure and Noise Contribution of Electronic Circuits, Jonathan Bird, October 1992, p. 80.
Mixer Spurious Calculation for Broadband EW Systems, Ronald Day, December 1992, p. 52.
RF Path Simulation Using BAW Delay Lines, Fred Klepper and Howard Ryder, December 1992, p. 62.

Test and Measurement

New Trends in Analyzer Technology Provide Faster Measurements for Narrowband Applications, Manfred Bartz, March 1991, p. 68.
A Lab Frequency Standard Distribution System, Mitchell Lee, June 1991, p. 27.
Low Frequency Circulator/Isolator Uses No Ferrite or Magnet, Charles Wenzel, July 1991, p. 39. Errata, October 1991, p.13.
Measuring Attack and Release Times for Compandors, Michael J. Delurio and Alvin K. Wong, October 1991, p. 41.
Automated Noise Measurements Eliminate Drudgery, Robert N. Cash, November 1991, p. 113.
Intermodulation Distortion, Gary A. Breed, January 1992, p. 61.
A Simple EMI/RFI Detector, J. Ayer, March 1992, p. 107.
Fast Frequency Measurement Analyzes Modulation and Oscillators, Douglas Barker, May 1992, p. 27.
Measuring Electrically Long Devices With a Network Analyzer, Barry Brown, May 1992, p. 82.
Distortion Measurements Using a Spectrum Analyzer, Robert A. Witte, September 1992, p. 75.

Transmission Lines/Couplers

Cable Equalizer Design, Frederick J. Radler, February 1991, p. 128.
High Power Bi-Directional Coupler for Space Applications, Pascal R. Goux, May 1991, p. 40.
CAD of Single and Tandem Lange Couplers, Timothy O'Connell and Patrick Murphy, May 1991, p. 73.
Broadband RF Transformer Directional Couplers, Mark McWhorter, July 1991, p. 53. Errata, August 1991, p. 12.
A Transmission Line Calculation Program, Dan Swanson, August 1991, p. 66.
Simple SMT Bridge Circuit Mimics Ultra-Broadband Coupler, Joel Dunsmore, November 1991, p. 105.
Analysis Program for Coaxial Cable, Eric Stasik, December 1991, p. 58.
A Modular Two-Band Diplexer, J. Robert Witmer, December 1991, p. 30.
Simple Compensation of the Single-Section, Quarter Wave Matching Section, Ernie Franke, January 1992, p. 38.
A Smith Chart Based Impedance Matching Program, Neal Silence, February 1992, p. 61. Errata, June 1992, p. 10.
CAD Program for Analysis and Synthesis of Stripline, Microwave Circuits, Dariusz Lubecki and Przemyslaw Miazga, April 1992, p. 89.
Shrink Branch-Line Hybrids Using Inverters, Dr. H. Ashoka, December 1992, p. 56.

Transmitters/Receivers

A Simple Two-Channel Receiver for 8-PSK, Glen A. Myers and Daniel C. Bukofzer, February 1991, p. 29. Errata, April 1991, p. 13.
Susceptibility of a Pi/4 DQPSK TDMA Channel to Receiver Impairments, K. Anvari and D. Woo, February 1991, p. 49.
A Novel, Wide Band, Crystal Controlled FM Transmitter, Thomas G. Xydis, February 1991, p. 98.
A Low Cost UHF AM Receiver, Robert Friday and John Neder, November 1991, p. 31
A Simple, Low-Cost Microwave LAN Link, Peter Minett, November 1991, p. 46.
A Two-Chip Solution for Audio Processing, Alvin K. Wong, November 1991, p. 48.
An Improved FM Exciter Using Direct Digital Synthesis, Thomas Hack, March 1992, p. 95.
A Simple Road Information Transmitter, Thomas Hack, July 1992, p. 31.
Fundamentals of Receiver Design for Part 15 Applications, Bernard Kasmir, September 1992, p. 35.
Algorithms for Computing Phase and AGC in Digital PLL Receivers, Guglielmo A. Ferrari and Roberto Cali, October 1992, p. 33.
The Design of a Sampling Gate Receiver, Jonathan Y.C. Cheah, November 1992, p. 66.